wherein R¹, R², R³, R⁴, R⁵ and R⁶ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms.

- 2. (Amended) The non-aqueous electrolyte secondary battery according to Claim 1, wherein said negative electrode comprises a carbon-based material capable of absorbing and releasing lithium.
- 4. (Amended) The non-aqueous electrolyte secondary battery according to Claim 1, wherein said non-aqueous solvent is a mixed solvent comprising a cyclic carbonate selected from the group consisting of alkylene carbonates having an alkylene group moiety of from 2 to 4 carbon atoms and a chain carbonate selected from the group consisting of dialkyl carbonates having an alkyl group moiety of from 1 to 4 carbon atoms, wherein the vinylethylene carbonate compound of formula (I) is present in an amount of not less than 20 vol-%, and wherein said cyclic and chain carbonates are present in an amount of not less than 70 vol-% based on the total solvent amount.
- 5. (Amended) The non-aqueous electrolyte secondary battery according to Claim 1, wherein said non-aqueous solvent except the vinylethylene carbonate compound of the formula (I) comprises one or more solvents having a relative dielectric constant of not less than 25 and a flash point of not lower than 70°C.

- 6. (Amended) The non-aqueous electrolyte secondary battery according to Claim 1, wherein said non-aqueous solvent except the vinylethylene carbonate compound of the formula (I) has a relative dielectric constant of not less than 25.
- 7. (Amended) The non-aqueous electrolyte secondary battery according to Claim 5, wherein said solvent having a relative dielectric constant of not less than 25 is selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate, γ -butyrolactone and γ -valerolactone.
- 8. (Amended) The non-aqueous electrolyte secondary battery according to Claim 5, wherein said solvent having a relative dielectric constant of not less than 25 is a mixture of ethylene carbonate and γ -butyrolactone.
- 9. (Amended) The non-aqueous electrolyte secondary battery according to Claim 1, wherein the lithium salt is at least one salt selected from the group consisting of LiClO₄, LiPF₆, LiBF₄, LiCF₃SO₃, LiN(CF₃SO₂)₂, LiN(CF₃CP₂SO₂)₂, LiN(CF₃SO₂)(C₄F₉SO₂) and LiC(CF₃SO₂)₃.
- 10. (Amended) A non-aqueous electrolyte for a non-aqueous electrolyte secondary battery comprising at least a negative electrode and a positive electrode capable of absorbing/releasing lithium, said non-aqueous electrolyte comprising a solute and a non-aqueous solvent, wherein said non-aqueous solvent comprises a vinylethylene carbonate compound represented by formula (I) in an amount of from 0.01 to 20% by weight:

wherein R¹, R², R³, R⁴, R⁵ and R⁶ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms.

11. (Amended) A non-aqueous electrolyte for a non-aqueous electrolyte secondary battery comprising at least a negative electrode and a positive electrode capable of absorbing/releasing lithium, said non-aqueous electrolyte comprising a solute and a non-aqueous solvent, wherein said non-aqueous solvent comprises one or more solvents wherein said one or more solvents have a relative dielectric constant of not less than 25, is present in an amount of not less than 90% by weight, exhibits a flash point of not lower than 70°C and comprises at least one vinylethylene carbonate represented by formula (I):

wherein R¹, R², R³, R⁴, R⁵ and R⁶ each independently represent a hydrogen atom or an alkyl group having 1 to 4 carbon atoms.

Please add the following new claims.

- 12. (New) The non-aqueous electrolyte secondary battery according to Claim 6, wherein said solvent having a relative dielectric constant of not less than 25 is selected from the group consisting of ethylene carbonate, propylene carbonate, butylene carbonate, γ -butyrolactone and γ -valerolactone.
- 13. (New) The non-aqueous electrolyte secondary battery according to Claim 6, wherein said solvent having a relative dielectric constant of not less than 25 is a mixture of ethylene carbonate and γ -butyrolactone.